CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESOLUTION NO. 70-77

PRESCRIBING REVISED REQUIREMENTS FOR EIGHT WASTE DISCHARGES BY HERCULES, INC. INTO SAN PABLO BAY AND ONTO LAND IN THE TOWN OF HERCULES, CONTRA COSTA COUNTY AND AMENDING RESOLUTION NO. 68-39

WHEREAS THIS REGIONAL BOARD HAS CONSIDERED

REPORT ON WASTE DISCHARGE

1. Hercules, Incorporated, called the discharger below, filed a Report on Waste Discharge dated June 23, 1970, and other data, with this Regional Water Quality Control Board to inform it of changes in the nature and the proposed change in discharge point of certain wastes, pursuant to Section 13260(b) of the California Water Code. The waste discharges as they now exist are regulated by requirements which the Regional Board prescribed in Resolution No. 68-39.

2. That Report and other data describe these waste discharges as follows:

   a. Waste "A" is sewage from a total working force of 157 mixed with industrial waste from manufacturing nitric acid, ammonium nitrate, nitrogen tetroxide, and drainage from process and loading areas. Urea manufacturing wastes will become part of Waste "A" in the next several months. Waste "A" is about 86% once-through cooling water from San Pablo Bay.

      (1) Existing treatment facilities for Waste "A" include septic tanks which treat the sewage in it, and chlorinators which disinfect the septic tank effluent. Instrumented pH control facilities and an equalization-settling pond are being provided to treat Waste "A".

      (2) Waste "A" is to be discharged at an average flow rate of about 1.7 mgd above the surface of San Pablo Bay at the shoreline about 700 feet east of the Hercules wharf via a pipe herein identified as Outfall "A-1".

      (3) Waste "A" as now being discharged via Outfall "A", about 200 feet from Outfall "A-1", is regulated by Resolution No. 68-39.

   b. Waste "B" is sewage from a total working force of 49 mixed with industrial waste from ammonia, methanol, formaldehyde, ammonium nitrate, nitroform, and urea manufacture, and surface drainage from loading, storage, and land disposal areas. The urea manufacturing wastes will be excluded from Waste "B" in the next several months.

(1) Existing treatment facilities for Waste "B" include septic tanks which treat the sewage in it, and chlorinators which disinfect the septic tank effluent. Instrumented pH control facilities, an activated sludge treatment unit, and a final settling pond are being provided to treat the entire Waste "B" flow; these new units are expected to be in service in March or April of 1971.

(2) Waste "B" is to be discharged at an average flow rate of 0.16 mgd into Ellerhorst Creek, an intermittent tributary of Refugio Creek, at a point about 2000 feet SSE from the discharger's plant office building and at an elevation of about 40 feet above mean lower low-water. Ellerhorst Creek will convey the waste to the tidal reach of Refugio Creek. The pipe that will discharge Waste "B" into Ellerhorst Creek is identified herein as Outfall "B-1".

(3) Waste "B" as now being discharged via Outfall "B" into Refugio Creek is regulated by Resolution No. 68-39.

c. Waste "C" industrial waste only from manufacturing various nitrogen compounds, is discharged only in event of process error; and is discharged at a flow rate of less than 5,000 gallons per year to a 10,000 gallon pond; the waste is confined to the pond, identified herein as Land Disposal Site "L-1".

d. Waste "D" is solid industrial waste only consisting of paper bags used for holding diatomaceous earth, and various other paper and wood wastes; is deposited at a site northeast of the main plant, identified herein as Land Disposal Site "L-2" and the site is covered with earth four times yearly.

e. Waste "E" is industrial waste only from manufacture of phenol-formaldehyde resin and is discharged to and confined in a 38,000 gallon earthen pond, identified herein as Land Disposal Site "L-3".

f. Waste "F" is sewage only from a total working force of 14; existing treatment facilities consist of one septic tank which treats all wastes, and is discharged into a sub-surface leaching field near the discharger's laboratory.

g. Waste "G" is sewage only from a total working force of five; existing treatment facilities consist of one septic tank which treats all wastes; and is discharged into a sub-surface leaching field near the discharger's yard office.

h. Waste "H" is sewage only from a total working force of five. Existing treatment facilities for Waste "H" consist of a septic tank which treats all of Waste "H". Waste "H" is discharged into a sub-surface leaching field near the discharger's prilling plant changehouse.

CORRESPONDENCE

This Regional Board has considered recommendations about this matter from:

1. State Department of Fish and Game in its memorandum dated October 13, 1970.

2. State Department of Public Health, Bureau of Sanitary Engineering in its memorandum dated September 18, 1970.

STAFF INVESTIGATION

1. These wastes can affect the following present beneficial water uses in San Pablo Bay and contiguous water bodies:

   Industrial cooling and process water supply year-round

   Swimming, water-skiing, pleasure boating, marinas, fishing, hunting and shellfishing

   Fish and wildlife propagation and sustenance, and waterfowl and migratory birds habitat and resting

   Navigation channels and port facilities

   Esthetic enjoyment.

2. The wastes in Land Disposal Site "L-1" and "L-3" includes matter which the Regional Board has defined as requiring confinement in Class I dumpsites.

3. The waste in Land Disposal Site "L-2" includes matter which the Regional Board has defined as requiring confinement in Class II dumpsites.

4. Land within 1000 feet of the waste discharge points is used for residence, pasture, transportation, public roadways and industry.

RESOLVED BY THIS REGIONAL BOARD

BOARD INTENT

1. Protect public health as it may be affected by these waste discharges.

2. Prevent nuisance, as defined in Section 13050(m) of the California Water Code.

3. Protect the beneficial water uses listed under "Staff Investigation" above, except shellfishing.

   In accordance with Section XVII of its Resolution No. 803, this Board has received a report from the Department of Fish and Game dated August 26, 1968, which describes beds suitable for shellfishing that are located between Pinole Point and Davis Point. This Board will consider the matter of protecting these beds for the taking of shellfish for human consumption after it has reviewed a report to be submitted by the State Department of Public Health in accordance with Resolution No. 803.

WASTE DISCHARGE REQUIREMENTS - RECEIVING WATERS

1. The treatment or disposal of these wastes shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. These discharges shall not:

   a. Unreasonably affect any of the protected beneficial water uses resulting from:

      Floating, suspended, or deposited macroscopic particulate matter or foam, in waters of the State at any place;

      Bottom deposits at any place;

      Aquatic growths at any place;

      Alteration of temperature, turbidity, or apparent color beyond present natural background levels in waters of the State at any place.

   b. Cause visible, floating, suspended or deposited oil or other products of petroleum origin in waters of the State at any place.

3. The discharge of Wastes "A" and "B", via outfalls "A-1" and "B-1" shall not cause waters of the State to exceed the following limits of quality at any point:

a.	Dissolved oxygen	5.0 mg/l minimum
b.	Dissolved sulfide	0.1 mg/l maximum
c.	Other substances	Any one or more substances in concentrations that impair any of the protected beneficial water uses or make aquatic life or wildlife unfit or unpalatable for consumption.

WASTE DISCHARGE REQUIREMENTS - WASTE STREAMS

1. Waste "A" and "B" as discharged from Outfalls "A-1" and "B-1" into waters of the State shall meet these quality limits at all times:

   a. In any grab sample:

pH	7.0 minimum 8.5 maximum
Dissolved sulfide	0.1 mg/l, maximum
Coliform Organisms, based on at least two samples per week for each waste taken from one or more points that include all sewage tributary to each system.	240 MPN/100 ml, moving median of five consecutive samples, maximum 10,000 MPN/100 ml, maximum, any single sample, when verified by a repeat sample taken within 48 hours.

The Board will accept proof of effective effluent disinfection in terms of factors other than bacterial concentrations if the discharger documents a sound statistical correlation between such factors and bacterial analysis, and provided the conditions of sewage strength and treatment do not change from the demonstration period.

Analyses to be determined by the multiple-tube fermentation method using at least two portions per decimal dilution.

b. In any representative, 24-hour composite sample:

Chromium, total	1.0 mg/l, maximum
Lead	0.05 mg/l, maximum

This Board will consider prescribing specific requirements for the concentration of Copper and Zinc in the receiving waters or waste discharge after enough new data has been obtained and evaluated; in the meanwhile, the Board considers the following to be receiving water quality objectives for the points described above:

Copper	0.05 mg/l maximum
Zinc	0.1 mg/l maximum
Nutrients	to be prescribed at the earliest practicable date
Ammonium hydroxide, undissociated	to be prescribed at the earliest practicable date
Grease	15 mg/l, maximum

The discharger will be considered in compliance with this effluent grease requirement if he is in compliance both with the receiving water requirement prohibiting...floating, suspended, or deposited...oil, or grease and with the effluent toxicity requirement.

c. In any representative set of samples:

Toxicity: survival of test fishes in 96-hour bioassays of the waste as discharged

Any determination	70%, minimum
Average of any three or more consecutive determinations made during any 21 or more days	90%, minimum

d. 5-day, 20°C. BOD removal from the waste as indicated by analysis of 24-hour composite samples of effluent and influent shall be sufficient to maintain the dissolved oxygen concentration prescribed above. When the dissolved oxygen is less than the concentration prescribed above the BOD removal during the preceding 21 days shall be at least

Average	90%
Not more than two consecutive daily determinations shall indicate BOD removals less than	80%

2. The quality of Waste "A" as discharged from Outfall "A-1" shall be maintained within the following additional limits of quality at all times in any grab sample.

Settleable matter in excess of that in the intake water drawn from San Pablo Bay

80% of all individual samples collected during maximum daily flow over any 30-day period	0.1 ml/l/hr. maximum
Any sample	0.5 ml/l/hr. maximum

3. The quality of Waste "B" as discharged from Outfall "B-1" shall be maintained within the following additional limits of quality at all times in any grab sample.

Settleable matter

The arithmetic average of any 6 or more samples collected on any day	0.5 ml/l/hr. maximum
80% of all individual samples collected during maximum daily flow over any 30-day period	0.04 ml/l/hr. maximum
Any sample	1.0 ml/l/hr. maximum

4. The discharge of Waste "D" shall not cause waste material to be in any position where it is, or can be carried from Land Disposal Site "L-2" and deposited into waters of the State.

5. Wastes "C" and "E" shall be effectively confined to their corresponding land disposal sites "L-1" and "L-3" at all times.

6. Land Disposal Sites "L-1", "L-2" and "L-3", shall have facilities adequate to exclude flood and tidal waters, to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the disposal site. Adequate protection is defined as protection from at least a 100-year storm.

7. Wastes "F", "G" and "H" shall:

   a. Have septic tank treatment or its equivalent at all times

   b. Be kept entirely beneath the ground surface at all times.

PROHIBITION

Pursuant to Section 13243 of the California Water Code this Regional Board prohibits at any time the disposal of material acceptable only at Class I waste disposal sites in Land Disposal Site "L-2".

REPORTING REQUIREMENTS

This Resolution includes items numbered 1, 3, 6 and 7 of the attached "Reporting Requirements", dated August 28, 1970.

NOTIFICATIONS

1. This Resolution includes items numbered 1, 2, 3, 4, 5 and 6 of the attached "Notifications", dated January 6, 1970.

2. Those provisions of this Regional Board's Resolution No. 68-39 which pertain only to Wastes "C", "D" and "E" as defined therein are rescinded. The other provisions of Resolution No. 68-39 are amended to make the code references consistent with the California Water Code, which became operative on January 1, 1970, by substituting Section 13050(m) in place of 13005, 13267(b) and 13268 in place of 13055 and 13055.1, and other substitutions necessary to identify current code sections which contain definitions, authorize Regional Board actions, or place responsibilities upon the discharger. The Reporting Requirements and Notifications prescribed above are added to those portions of Resolution No. 68-39 which remain in effect.

3. This Regional Board will consider further amendment to, or rescinding Resolution No. 68-39 upon the discharger's demonstration of compliance with all the waste discharge requirements prescribed therein, pursuant to the schedule contained in the State Water Resources Control Board's Order No.70-3.

4. Maximum allowable concentrations of heavy metals may be reduced or may be prescribed in the future to provide protection of the environment.

WILLIAM C. WEBER
Chairman

October 22, 1970

I, Fred H. Dierker, hereby certify that the foregoing is a true and correct copy of Resolution No. 70-77 adopted by the California Regional Water Quality Control Board - San Francisco Bay Region at its regular meeting on October 22, 1970.

FRED H. DIERKER, Executive Officer
CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD - SAN FRANCISCO BAY REGION